**BILLING CODE 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN 0648-XF800**

# Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Confined Blasting Operations in the East Channel by the U.S. Army Corps of Engineers During the Tampa Harbor Big Bend Channel Expansion Project in Tampa Harbor, Tampa, Florida

**AGENCY**: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; Issuance of Incidental Harassment Authorization (IHA).

**SUMMARY**: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA), as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to the U.S. Army Corps of Engineers, Jacksonville District, (USACE) for authorization to take one species of marine mammal incidental to confined blasting in the East Channel of the Big Bend Channel in Tampa Harbor, Tampa, Florida.

**DATES**: The IHA will be valid from April 1, 2019 through March 31, 2020.

**FOR FURTHER INFORMATION CONTACT**: Dale Youngkin, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the IHA and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-*

*construction-activities*. In case of problems accessing these documents, please call the contact listed above.

**SUPPLEMENTARY INFORMATION**:

**Background**

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined "negligible impact" in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The MMPA states that the term "take" means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal. 16 U.S.C. 1362(13).

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the

potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment). 16 U.S.C. 1362(18)(A).

**National Environmental Policy Act**

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our proposed action (*i.e.*, the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment.

Accordingly, NMFS adopted the USACE's Supplemental Environmental Assessment (EA) (August, 2017). After independent evaluation of the document and review of comments submitted in response to the proposed IHA notice, NMFS has concluded that the USACE's EA includes adequate information analyzing the effects on the human environment of issuing the IHA and issued our ow Finding of No Significant Impact (FONSI). NMFS' FONSI is available for review on our website at http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.

**Summary of Request**

On August 8, 2017, NMFS received a request from USACE for an IHA to take marine mammals incidental to confined blasting within the East Channel of the Tampa Harbor Big Bend Channel Expansion Project in Tampa, Florida. USACE's request is for take of a small number of the Tampa Bay stock of bottlenose dolphins (*Tursiops truncatus*) by Level B harassment only. Neither USACE nor NMFS expect mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued an IHA to USACE for similar work in the Miami Harbor (77 FR 49278, August 15, 2012). However, ultimately, USACE did not perform any confined

blasting under that IHA. Prior to that, NMFS issued an IHA to the USACE for similar work in the Miami Harbor Phase II Project in 2005 (70 FR 21174, April 25, 2005) and 2003 (68 FR 32016, May 29, 2003).

**Description of Proposed Activity**

A detailed description of the planned USACE project is provided in the *Federal Register* notice for the proposed IHA (83 FR 11968; March 19, 2018). Since that time, no changes have been made to the planned activities. Therefore, we provide only a summary here. Please refer to the *Federal Register* Notice for the full description of the specified activity.

USACE plans to conduct confined underwater blasting within the East Channel as part of the Tampa Harbor Big Bend Channel Expansion Project in Tampa, FL. The purpose of the confined underwater blasting is to break up rock in the existing East Channel to allow for dredging necessary to widen and deepen the existing channel.

Due to coordination with the U.S. Fish and Wildlife Service (USFWS) to avoid potential impacts to manatees, the USACE will be restricted to the months of April – October for blasting activities. In addition to the seasonal restriction for blasting activities, the USACE has proposed restricting the number of blasting events to a maximum of 42 events, and the maximum weight of each charge will be 18 kg (40 lbs)/charge, for a total of 725 kg (1,600 lbs) per each blasting event.

Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see "Proposed Mitigation" and "Proposed Monitoring and Reporting").

**Comments and Responses**

A notice of NMFS's proposal to issue an IHA to the USACE was published in the *Federal Register* on March 19, 2018 (83 FR 11968). That notice described the USACE's

activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received one comment letter from the Marine Mammal Commission (Commission). The Commission concurred with NMFS' preliminary findings and recommended that NMFS issue the IHA, subject to the inclusion of the proposed mitigation, monitoring, and reporting measures as provided in the notice of the proposed IHA.

*Comment 1*: The Commission recommended that NMFS enumerate the number of bottlenose dolphins that could be taken during the planned activities by applying standard rounding rules before summing the numbers of estimated takes across days of activities.

*Response*: Calculating predicted take is not an exact science and there are arguments for taking different mathematical approaches in different situations, and for making qualitative adjustments in other situations. NMFS is currently engaged in developing a protocol to guide more consistent take calculation given certain circumstances. We believe, however, that the methodology for this action remains appropriate and the the low likelihood of take in combination with implementation of monitoring and mitigation measures will avoid any take of marine mammals by Level A harassment.

*Comment 2*: The Commission recommended several items for NMFS to ensure are incorporated into either the final hydroacoustic monitoring plan or the IHA itself. In addition, the Commission stated these items would likely need to be stipulated by the USACE in its hydroacoustic monitoring contract.

*Response*: NMFS coordinated with the USACE in regard to the hydroacoustic monitoring plan. As stated in the MMC comment, USACE has indicated that they would need to have a contractor on board prior to development of the hydroacoustic monitoring plan. USACE agreed

to develop the hydroacoustic monitoring plan in coordination with NMFS, and agreed to provide NMFS with a draft plan for review at least 30 days prior to beginning the blasting activities. However, the information provided by the MMC was shared with USACE and NMFS will require this information to be included in hydroacoustic monitoring plan prior to approval of the plan and has incorporated this information into the IHA itself.

**Description of Marine Mammals in the Area of Specified Activities**

A detailed description of the species likely to be affected by the USACE confined blasting project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, are provided in USACE's application and the *Federal Register* notice for the proposed IHA (83 FR 11968; March 19, 2018). We are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to the *Federal Register* notice for these descriptions. Table 1 lists all marine mammal species with potential occurrence in the project area; however, only bottlenose dolphin (*Tursiops truncatus*) have the potential to be affected by the USACE proposed activities, so other species are not discussed further in this document. Please also refer to additional species information available in the NMFS Atlantic Ocean Stock Assessment Reports (SARs) s at http://nmfs.noaa.gov/pr/sars/region.htm.

**Table 1. Marine Mammals with Potential Occurrence in the Project Area.**

| Species | Habitat | Occurrence in Project Area | Stock Population Estimate[1] | ESA status[2] | MMPA status[3] | PBR |
|---|---|---|---|---|---|---|
| Humpback whale (*Megaptera novaengliae*) | Pelagic, nearshore waters and banks | Rare | 823 – Gulf of Maine Stock | NL | NC | 13 |
| Minke whale | Coastal, | Rare | 2,591 – | NL | NC | 14 |

| | | | | | | |
|---|---|---|---|---|---|---|
| (*Balaenoptera acutorostrata*) | offshore | | Canadian East Coast Stock | | | |
| Bryde's whale (*Balaenoptera brydei*) | Pelagic and coastal | Rare | 33 – Northern Gulf of Mexico Stock | NL | S | 0.03 |
| Sei whale (*Balaenoptera borealis*) | Primarily offshore, pelagic | Rare | 357 – Nova Scotia Stock | EN | S | 0.5 |
| Fin whale (*Balaenoptera physalus*) | Slope, mostly pelagic | Rare | 1,618 – Western North Atlantic Stock | EN | S | 2.5 |
| Blue whale (*Balaenoptera musculus*) | Pelagic and coastal | Rare | 440 – Western North Atlantic Stock | EN | S | 0.9 |
| Sperm whale (*Physeter macrcephalus*) | Pelagic, deep seas | Rare | 763 – Northern Gulf of Mexico Stock | EN | S | 1.1 |
| Dwarf sperm whale (Kogia sima) | Offshore, pelagic | Rare | 186 – Northern Gulf of Mexico Stock | NL | NC | 0.9 |
| Gervais' beaked whale (*Mesoplodon europaeus*) | Pelagic, slope and canyons | Rare | 149 – Northern Gulf of Mexico Stock | NL | NC | 0.8 |
| Sowerby's beaked whale (*Mesoplodon bidens*) | Pelagic, slope and canyons | Rare | 7,092 – Western North Atlantic Stock | NL | NC | 0.8 |
| Blainville's beaked whale (*Mesoplodon densirostris*) | Pelagic, slope and canyons | Rare | 149 - Northern Gulf of Mexico Stock | NL | NC | 0.8 |

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|---|---|---|---|---|---|---|
| Cuvier's beaked whale (*Ziphius cavirostris*) | Pelagic, slope and canyons | Rare | 74 – Northern Gulf of Mexico Stock | NL | NC | 0.4 |
| Killer whale (*Orcinus orca*) | Widely distributed | Rare | 28 – Northern Gulf of Mexico Stock | NL | NC | 0.1 |
| Short-finned pilot whale (*Globicephala macrorhynchus*) | Inshore and offshore | Rare | 2,415 – Northern Gulf of Mexico Stock | NL | NC | 15 |
| False killer whale (*Pseudorca crassidens*) | Pelagic | Rare | NA – Northern Gulf of Mexico Stock | NL | NC | unknown |
| Melon-headed whale (*Peponocephala electra*) | Pelagic | Rare | 2,335 – Northern Gulf of Mexico Stock | NL | NC | 13 |
| Pygmy killer whale (*Feresa attenuata*) | Pelagic | Rare | 152 – Northern Gulf of Mexico Stock | NL | NC | 0.8 |
| Risso's dolphin (*Grampus griseus*) | Pelagic, shelf | Rare | 2,442 – Northern Gulf of Mexico Stock | NL | NC | 16 |
| Common bottlenose dolphin (*Tursiops truncatus*) | Offshore, inshore, coastal, and estuaries | Common | 564 – Tampa Bay Stock[4] | NL | S | Unknown |
| Rough-toothed dolphin (*Steno bredanensis*) | Pelagic | Rare | 624 – Northern Gulf of Mexico Stock | NL | NC | 3 |
| Fraser's dolphin | Shelf and | Rare | NA – | NL | NC | unknown |

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|---|---|---|---|---|---|---|
| (*Lagenodelphis hosei*) | slope | | Northern Gulf of Mexico Stock | | | |
| Striped dolphin (*Stenella coeruleoalba*) | Coastal, shelf and slope | Rare | 1,849 - Northern Gulf of Mexico Stock | NL | NC | 10 |
| Pantropical spotted dolphin (*Stenella attenuata*) | Coastal, shelf and slope | Uncommon | 50,880 – Northern Gulf of Mexico Stock | NL | NC | 407 |
| Atlantic spotted dolphin (*Stenella frontalis*) | Coastal to pelagic | Uncommon | NA – Northern Gulf of Mexico Stock | NL | NC | unknown |
| Spinner dolphin (*Stenella longirostris*) | Mostly pelagic | Uncommon | 11,441 – Northern Gulf of Mexico Stock | NL | NC | 62 |
| Clymene dolphin (*Stenella clymene*) | Coastal, shelf and slope | Uncommon | 129 – Northern Gulf of Mexico Stock | NL | NC | 0.6 |
| West Indian manatee (Florida manatee) (*Trichechus manatus latirostris*) | Coastal, rivers, and estuaries | Uncommon | 6,620 – Florida Stock[5] | T | D | |

[1] – NMFS Marine Mammal Stock Assessment Reports (Hayes *et al.*, 2016) unless indicated otherwise

[2] – U.S. Endangered Species Act: EN = endangered; T = threatened; NL = not listed

[3] – U.S. Marine Mammal Protection Act: D = depleted; S = strategic; NC = not classified

[4] – Wells *et al.*, 1995

[5] – Florida Fish and Wildlife Conservation Commission Survey Data (USFWS jurisdiction)

## Potential Effects of Specified Activities on Marine Mammals and their Habitat

The *Federal Register* notice for the proposed IHA (83 FR 11968; March 19, 2018) included a discussion of the effects of disturbance on marine mammals and their habitat; therefore, that information is summarized here. Please refer to the proposed IHA *Federal Register* notice for more detailed information.

The USACE's proposed confined blasting activities have the potential to take marine mammals by exposing them to impulsive noise and pressure waves generated by detonations of explosives. Exposure to energy, pressure, or direct strike has the potential to result in non-lethal injury (Level A harassment), disturbance (Level B harassment), serious injury, and/or mortality.

The potential effects of underwater detonations from the proposed confined blasting activities may include one or more of the following: temporary or permanent hearing impairment, non-auditory physical or physiological effects, behavioral disturbance, and masking (Richardson *et al*., 1995; Gordon *et al*., 2004; Nowacek *et al*., 2007; Southall *et al*., 2007). However, the effects of noise on marine mammals are highly variable, often depending on species and contextual factors (based on Richardson *et al*., 1995). Implementation of mitigation and monitoring efforts will avoid mortality, serious injury, and Level A harassment (PTS). Therefore, only Level B harassment (TTS and behavioral harassment) are anticipated due to the USACE confined underwater blasting activities.

While we anticipate that the specified activity may result in marine mammals avoiding certain areas due to temporary ensonification, this impact to habitat and prey resources would be temporary and reversible. The main impact associated with the proposed activity would be temporarily elevated noise levels and the associated direct effects on marine mammals. Marine mammals are anticipated to temporarily vacate the area of live detonations. However, these events are usually of short duration, and we anticipate that animals will return to the activity area

during periods of non-activity. Thus, we do not anticipate that the proposed activity would have any habitat-related effects that could cause significant or long-term consequences for individual marine mammals or their populations.

**Estimated Take**

This section provides an estimate of the number of incidental takes proposed for authorization through this IHA, which will inform both NMFS' consideration of whether the number of takes is "small" and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level B harassment only, in the form of disruption of behavioral patterns and/or TTS for individual marine mammals resulting from exposure to noise from underwater confined blasting in the East Channel of the Big Bend Channel, Tampa Harbor. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.*, no blasting if marine mammals (or any protected species) are within the East Channel, which encompasses the entirety of the Level A take zone, as discussed in detail below in Proposed Mitigation section), Level A harassment is neither anticipated nor proposed to be authorized.

As described previously, no mortality is anticipated or proposed to be authorized for this activity. Below we describe how the take is estimated.

Described in the most basic way, we estimate take by considering: 1) thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment or tissue damage; 2) the area or volume of water that will be ensonified above these levels in a day; 3) the density or occurrence of marine mammals within these ensonified areas; and, 4) and the number of days of activities. Below, we describe these components in more detail and present the proposed take estimate.

*Acoustic Thresholds*

Using the best available science, NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment). Thresholds have also been developed to identify the pressure levels above which animals may incur different types of tissue damage from exposure to pressure waves from explosive detonation.

These thresholds were developed by compiling and synthesizing the best available science and soliciting input multiple times from both the public and peer reviewers to inform the final product, and are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2016 Technical Guidance, which may be accessed at: http://www.nmfs.noaa.gov/pr/acoustics/guidelines.htm.

**Table 2. NMFS' Current Thresholds and Criteria for Impact Analysis from the Use of Explosives for Mid-Frequency Cetaceans.**

| Hearing Group | Species | Behavioral | TTS | PTS | GI Tract Injury | Lung Injury | Mortality |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mid-frequency cetaceans | Most delphinids, medium and large toothed whales | 165 dB SELcum | 170 dB SELcum; 224 dB PK | 185 dB SELcum; 230 dB PK | 237 dB | 39.1 M1/3 (1+[DRm/10.081])1/2 Pa-sec Where: M = mass of the animals in kg DRm = depth of the receiver (animal) in meters | 91.4 M1/3 (1+[DRm/10.081])1/2 Pa-sec Where: M = mass of the animals in kg DRm = depth of the receiver (animal) in meters |

Explosive sources – Based on the best available science, NMFS uses the acoustic and pressure thresholds indicated in Table 2 above to predict the onset of behavioral harassment, TTS, PTS, tissue damage, and mortality.

*Ensonified Area*

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds.

Radii for Level A and Level B harassment were calculated using algorithms specifically developed for confined underwater blasting operations by the NMFS (see Attachment B of the application, which provides more detail and spreadsheet results). The algorithms compute the cumulative sound exposure impact zone due to a pattern of charges. The code calculates the total explosive energy from all charges through a summation of the individual energy emanating from each charge as a function of temporal and spatial separation of charges. Acoustical transmission loss is assumed to occur through cylindrical spreading. The SEL of the first detonation and each subsequent detonation is summed and transmission loss of acoustic energy due to cylindrical spreading is subtracted from the total SEL. Ultimately, the distance where the received level falls to a set SEL is calculated by spherical spreading of the total SEL (refer to section 6 and Attachment B of the IHA application for more information on how this was modeled). However, the proposed blasting would occur within the East Channel, which is open to the Hillsborough Bay on the west side of the channel, but confined by land on the north, east, and south sides of

the channel. NMFS and USACE agree that acoustic energy emanating from the East Channel and into Hillsborough Bay would rapidly decrease as the energy spreads to the north and south outside of the East Channel in the Bay. Under these conditions, sound energy beyond a 45 degree angle, or a 45 degree cone shape outside of the channel mouth would attenuate, and would not result in Level B take.

Level A and B take zones ($km^2$) were calculated using the calculated blasting radii. Some blasting radii are contained within the water column or between the East Channel's north and south shorelines. These areas therefore are circular in shape. However, larger blasting radii extend beyond the channel's shorelines. In these cases, the areas form an irregular polygon shape that are bounded by the channel's shoreline to the north, east, and south and are cone-shaped outside of the East Channel opening to Tampa/Hillsborough Bay. The areas of these irregular polygon shapes were determined with computer software (Google Earth Pro). This area was then multiplied by the density calculated for common bottlenose dolphins in the project area, as this is the only marine mammal species potentially occurring in the East Channel (density information provided below). Figure 10 of the application illustrates the take areas calculated for the largest blast pattern consisting of 18.1 kg (40 lbs)/delay and 40 individual charges, which was used to calculate estimated take for the confined blasting activities. The Level A (PTS) harassment zone was calculated to be 0.14 square kilometers based on an isopleth of 378 m; the Level B TTS harassment zone was calculated to be 2.85 square kilometers based on an isopleth of 2,125 m; and the Level B behavioral harassment zone was calculated to be 6 square kilometers based on an isopleth of 3,780 m.

We note here that Level A take is not anticipated due to the small Level A harassment zone and density of bottlenose dolphins in the proposed project area resulting in a low likelihood

of Level A take for any one blasting event combined with mitigation measures to avoid Level A take.

*Marine Mammal Occurrence/Density Calculation*

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations.

As stated above, common bottlenose dolphins are the only species of marine mammal anticipated to occur in the proposed project area. Using photo-identification methods, Urian *et al.* (2009) identified 858 individual dolphins during their 6-year study in the Tampa Bay. However, as state above, data from Wells *et al.* (1995) was used for the abundance estimate of the Tampa Bay Stock of common bottlenose dolphins, as Urian *et al.* (2009) was not an abundance estimate, but a population structure study. The Wells *et al.* (1995) mark-resight method provided the most conservative, or highest average, abundance of 564 common bottlenose dolphins within the 852-$km^2$ study area. In order to calculate take, the USACE made an assumption that the dolphins would be evenly distributed throughout Tampa Bay. The number of dolphins per square kilometer within this area is calculated as 0.66 (564 dolphins ÷ 852 $km^2$ = 0.66 dolphins/$km^2$).

*Take Calculation and Estimation*

Here we describe how the information provided above is brought together to produce a quantitative take estimate.

The USACE proposes a maximum charge weight of 725.7 kg (1,600 lbs) as a conservatively high estimate for the total amount of explosives that may be used in the largest blasting pattern. This is based on the fact that the maximum charge weight per delay would not exceed 18.1 kg (40 lbs)/delay for this project and the maximum number of charges per pattern would not exceed 40. Please refer to Table 3 of the application for the level of take associated

with this charge weight as well as other charge weights. Figure 10 of the application provides visual representation of take areas plotted on an aerial photograph for 18.1 kg/delay.

A maximum of 42 blast events would occur over the one year period of this IHA. Using the Tampa Bay Stock abundance estimate (n=564), the density of common bottlenose dolphins occurring within the footprint of the project (0.66 dolphins/$km^2$), as well as the maximum charge weight of 18.1 kg (40 lbs)/delay, the USACE is requesting Level B take for behavioral harassment and/or TTS for up to 5.8 common bottlenose dolphins per blast (refer to Table 3 of the application). Therefore, using the maximum amount of explosives per blast event and the maximum number of blast events, an estimated 244 Level B takes would occur over the one-year period of this IHA (5.8 dolphin/blast x 42 detonations = 243.6 exposures). However, the number of dolphins subjected to TTS and/or behavioral harassment is expected to be significantly lower for two reasons. First, the USACE will implement a test blast program to determine the smallest amount of explosives needed to fracture the rock and allow mechanical removal. This test blast program would begin with a single row pattern of charges, and would vary the number and charges/pattern as well as the charge weight/delay to determine the minimum needed and these test blasts would count toward the maximum of 42 total blast events. The maximum 1,600 lb blasting pattern of 18.1 kg (40 lb)/delay and 40 individual charges was used to calculate take due to the uncertainty regarding the minimum needed charge/delay and individual charges as well as uncertainty regarding the number of test blasts. Therefore, there would not actually be 42 blast events with the full pattern of 40 delays at full charge weight/delay (1,600 lb), as was assumed in the take calculation, and the take estimate is a conservative estimate. Second, we expect at least some of the exposures to be repeat exposures of the same individuals, as discussed further in the Small Numbers section below.

**Mitigation**

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, "and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking" for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

1) the manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned) the likelihood of effective implementation (probability implemented as planned) and;

2) the practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

As discussed previously, the USACE will confine the blasts within the East Channel by boring holes into the existing rock, placing explosive charges within the holes, and stemming the holes in order to greatly reduce the energy released into the water column from the blasts (estimated to reduce the amount of energy by 60-90 percent versus open water blasting). In addition to utilizing the confined blasting, the following conditions will be incorporated into the project specifications to reduce the risk of impacts to marine mammals:

- Confined blasting will be restricted to the East Channel only;
- Blasting will be restricted to the months of April through October (this is to avoid impacts to Florida manatee, but may also serve to avoid impacts if there are seasonal increases in Tampa Bay/proposed project area during the fall/winter as reported by Scott *et al*. (1989), and discussed above);
- The blasting plan shall be provided for NMFS review at least 30 days prior to work, and the blasting plan must include detailed information about the protected species watch program as well as details about proposed blasting events (to be submitted to NMFS headquarters Protected Species Division as well as the NMFS Southeast Regional Office, the State Fish and Wildlife Commission (FWC) Office, and USFWS);
    - The blasting plan shall include:
        - A list of the observers, their qualifications, and positions for the watch, including a map depicting the proposed locations for boat or land-based observers. Qualified observers must have prior on-the-job experience observing for protected marine species (such as dolphins, manatees, marine turtles, etc.) during previous in-water blasting events where the blasting activities were similar in nature to this project;

- The amount of explosive charge proposed, the explosive charge's equivalency in TNT, how it will be executed (depth of drilling, stemming information, etc.), a drawing depicting the placement of the charges, size of the safety radius and how it will be marked (also depicted on a map), tide tables for the blasting event(s), and estimates of times and days for blasting events (with an understanding this is an estimate, and may change due to weather, equipment, etc.). Certain blasting restrictions will be imposed including the following: 1) individual charge weights shall not exceed 18.1 kg (40 lbs)/delay, and 2) the contractor shall not exceed a total of 42 blast events during the blast window.

- Hydroacoustic monitoring will be performed for each blast event, up to the maximum of 42 blast events. A hydroacoustic monitoring plan will be developed in coordination with NMFS HQ Permits and Conservation Division, and will be submitted to NMFS for review at least 30 days prior to commencement of the blasting activities. As part of this hydroacoustic monitoring, the contractor shall:

  - Describe hydroacoustic measurement methods. The sampling rate of the recording devices (*i.e.*, hydrophone and/or pressure transducer) shall be specified to ensure the necessary frequencies (10 Hz – 40 kHz) and pressure signals (at least 1 MHz) are recorded and the appropriate filter (band pass) is used. The type of hydrophone proposed for use shall also be described and shall be appropriate for collecting measurements of underwater detonations as well as ambient measurements in the far field (*i.e.*, low vs high sensitivity). The plan shall specify that recording devices shall be placed in the near field (at 10 m) and sufficiently in the far field (and away from shipping lanes) to collect the relevant data.

  - Describe analytical methods. The plan shall specify that pressure signals must be analyzed using appropriate signal processing methods and applicable equations. The various

impulse metrics will be calculated using time series data. Cumulative sound exposure levels ($SEL_{cum}$) will be calculated using a linear summation of acoustic intensity. Weighted cumulative sound exposure thresholds will be used to estimate the various ranges.

The hydroacoustic monitoring plan shall stipulate that the contractor will:

- Record the SEL and SPL associated with each blasting event;
- Record the associated work (including borehole drilling and fish scare charges) as separate recordings;
- Provide nearby hydrophone records of drilling operations of 30 minutes over three early contract periods at least 18 hours apart.
- Provide hydrophone or transducer records within the contract area of three continuous 10-minute quiet periods (over three early contract periods) at least 18 hours apart or prior to the contractor's full mobilization to the site, and 10 close-approaches of varied vessel sizes. This information will be provided as both an Excel file and recording for each hydrophone (.wav file) shall include: GPS location of the hydrophone (to be located outside of the range that would cause clipping); Water depth to the sediment/rock bottom (to be placed at the shallower of 9.84 ft (3 m) depth of the mid-water column depth); and Information regarding the blast pattern or drilling.
- Provide a report that includes the appropriate metrics (*i.e.*, impulse in Pa-sec or psi-msec; peak sound levels; and SELcum for the entire blast event); appropriate statistics (*i.e.*, median, mean, minimum, and maximum); and relevant information (*i.e.*, number of delays per blast event, total net explosive weight of each blast event, sediment characteristics/types, hydrophone depths and distances to the closest and farthest delay, water depth, power specral data).

- In addition to review of the blasting plan, NMFS's Southeast Region Office and local stranding network shall be notified at the beginning (24 hours prior) and after (24 hours after) any blasting;
- For each explosive charge placed, three zones will be calculated, denoted on monitoring reports and provided to protected species observers before each blast for incorporation in the watch plan for each planned detonation. All of the zones will be noted by buoys for each of the blasts. These zones are:
    - Level A Take Zone: The Level A Take Zone is equal to the radius of the PTS Injury Zone. As shown in the application in Table 3, as well as Figure 10, all other forms of injurious take (*i.e.* gastro-intestinal injury, lung injury) and mortality have smaller radii than the PTS Injury Zone. Detonation shall not occur if a protected species is known to be (or based on previous sightings, may be) within the Level A Take Zone;
    - Exclusion Zone: A zone which is the Level A Take Zone + 152.4 m (500 ft). Detonation will not occur if a protected species is known to be (or based on previous sightings, may be) within the Exclusion Zone;
    - Level B Take Zone: The Level B Take Zone extends from the Exclusion Zone to the Behavior Zone radius. Detonation shall occur if a protected species is within the Level B Take Zone. Any protected species within this zone shall be monitored continuously and, if they are within the Level B Take Zone during detonation, then they shall be recorded on monitoring forms. Note that the Level B Take Zone should begin immediately beyond the end of the Level A Take Zone. However, the USACE proposes to implement an Exclusion Zone. Also, the area immediately beyond the Level B Take Zone shall also be monitored for protected species.

- No blasting shall occur within East Channel if dolphins or any other protected species are present within the East Channel (Note: the Level A harassment zone is entirely within the East Channel, which is why no Level A harassment is proposed for authorization);
- Protected species observers (PSOs) shall begin the watch program at least one hour prior to the scheduled start of the blasting activities, and will continue for at least one hour after blast activities have completed;
- The watch program shall consist of a minimum of six PSOs with a designated lead observer. Each observer shall be equipped with a two-way radio that shall be dedicated exclusively to the watch. Extra radios shall be available in case of failures. All of the observers shall be in close communication with the blasting subcontractor in order to halt the blast event if the need arises. If all observers do not have working radios and cannot contact the primary observer and the blasting subcontractor during the pre-blast watch, the blast shall be postponed until all observers are in radio contact. Observers will also be equipped with polarized sunglasses, binoculars, a red flag for backup visual communication, and a sighting log with a map to record sightings;
- All blasting events will be weather dependent. Climatic conditions must be suitable for adequate viewing conditions. Blasting will not commence in rain, fog or otherwise poor weather conditions, and can only commence when the entire Level A Take Zone, Exclusion Zone, and Level B Take Zone are visible to observers;
- The PSO program will also consist of a continuous aerial survey conducted as approved by the Federal Aviation Administration (FAA). The blasting event shall be halted if an animal is spotted approaching or within the Exclusion Zone. An "all-clear" signal must be obtained from the aerial observer before detonation can occur. Note that all observers must give

the “all-clear” signal before blasting can commence. The blasting event shall be halted immediately upon request of any of the observers. If animals are sighted, the blast event shall not take place until the animal moves out of the Exclusion Zone on its own volition. Animals shall not be herded away or harassed into leaving. Specifically, the animals must not be intentionally approached by project watercraft. Blasting may only commence when 30 minutes have passed without an animal being sighted within or approaching the Exclusion Zone or Level A Take Zone;

- If multiple blast events take place in one day, blast events shall be separated by a minimum of six hours;
- After each blast, the observers and contractors shall meet and evaluate any problems encountered during blasting events and logistical solutions shall be presented to the Contracting Officer. Corrections to the watch shall be made prior to the next blasting event. If any one of the aforementioned conditions (bullet points directly above) is not met prior to or during the blasting, the contractor as advised by the watch observers shall have the authority to terminate the blasting event, until resolution can be reached with the Contracting Officer. The USACE will contact FWC, USFWS and NMFS;
- If an injured or dead protected species is sighted after the blast event, the watch observers shall contact the USACE and the USACE will contact the resource agencies at the following phone numbers:
    - FWC through the Manatee Hotline: 1-888-404-FWCC and 850-922-4300;
    - USFWS Jacksonville: 904-731-3336;
    - NMFS Southeast Region: 772-570-5312, and Emergency Stranding Hotline – 1-877-433-8299.

- The observers shall maintain contact with the injured or dead protected species to the greatest extent practical until authorities arrive. Blasting shall be postponed until consultations are completed and determinations can be made of the cause of injury or mortality. If blasting injuries are documented, all demolition activities shall cease. The USACE will then submit a revised plan to FWC, NMFS and USFWS for review.

Based on our evaluation of the applicant's proposed measures, NMFS has determined that the proposed mitigation measures provide the means effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

**Monitoring and Reporting**

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);

- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

With some exceptions, the USACE will rely upon the same monitoring protocol developed for the Port of Miami project in 2005 (Barkaszi, 2005) and published in Jordan *et al*., 2007. A summary of that protocol is summarized here.

A watch plan will be formulated based on the required monitoring radii and optimal observation locations. The watch plan will consist of at least six observers including at least one (1) aerial observer, two (2) boat-based observers, and two (2) observers stationed on the drill barge (Figures 12, 13, 14, & 15). The 6th observer will be placed in the most optimal observation location (boat, barge or aircraft) on a day-by-day basis depending on the location of the blast and the placement of dredging equipment. There shall also be one lead observer. This process will

insure complete coverage of the three zones as well as any critical areas. The watch will begin at least 1 hour prior to each blast and continue for one half-hour after each blast (Jordan *et al* 2007).

Boat-based observers will be placed on vessels with viewing platforms. The boat observers will cover the Level B Take Zone where waters are deep enough to safely operate the vessel. The aerial observer will fly in a helicopter with doors removed at an average height of 500 ft. The helicopter will drop lower if they need to identify something in the water. This will provide maximum visibility of all zones as well as exceptional maneuverability and the needed flexibility for continual surveillance without fuel stops or down time, and the ability to deliver post-blast assistance. The area being monitored is a high traffic area, surrounded by an urban environment where animals are potentially exposed to multiple overflights daily, and prior experience has shown that this activity is not anticipated to result in take of marine mammals in the area.

As previously stated, blasting cannot commence until the entire Level A Take Zone, Exclusion Zone, and Level B Take Zone are visible to monitors, and would not commence in rain, fog, or other adverse weather conditions. The visibility below the surface of the water is naturally poor, so animals are not anticipated to be seen below the surface. However, animals surfacing in these turbid conditions are still routinely spotted from the air and from the boats, thus the overall observer program is not compromised, only the degree to which animals are tracked below the surface. Observers must confirm that all protected species are out of the Exclusion Zone and the Level A Take Zone for 30 minutes before blasting can commence.

All observers will be equipped with marine-band VHF radios, maps of the blast zone, polarized sunglasses, and appropriate data sheets. Communications among observers and with the blaster is critical to the success of the watch plan. The aerial observer will be in contact with

vessel and drill-barge based observers as well as the drill barge crew with regular 15-minute radio checks throughout the watch period. Constant tracking of animals spotted by any observer will be possible due to the amount and type of observer coverage and the communications plan. Watch hours will be restricted to between two hours after sunrise and one hour before sunset. The watch will begin at least one hour prior to the scheduled blast and is continuous throughout the blast. Watch continues for at least 60 minutes post blast at which time any animals that were seen prior to the blast are visually re-located whenever possible and all observers in boats and in the aircraft assisted in cleaning up any blast debris.

If any protected species are spotted during the watch, the observer will notify the lead observer, aerial observer, and/or the other observers via radio. The animal will be located by the aerial observer to determine its range and bearing from the blast pattern. Initial locations and all subsequent observations will be plotted on maps. Animals within or approaching the Exclusion Zone will be tracked by the aerial and boat based observers until they exit the Exclusion Zone. As stated earlier, animals that exit the Exclusion Zone and enter the Level B Take Zone will also be monitored. The animal's heading shall be monitored continuously until it is confirmed beyond the Level B Take Zone. Anytime animals are spotted near the Exclusion Zone, the drill barge and lead observer will be alerted as to the animal's proximity and some indication of any potential delays it might cause.

If an animal is spotted inside the Exclusion Zone and not re-observed, no blasting will be authorized until at least 30 minutes has elapsed since the last sighting of that animal. The watch will continue its countdown up until the T-minus five (5) minute point. At this time, the aerial observer will confirm that all animals are outside the Exclusion Zone and that all holds have expired prior to clearing the drill barge for the T-minus five (5) minute notice. A fish-scare

charge will be fired at T-minus five (5) minutes and T-minus one (1) minute to minimize effects of the blast on fish that may be in the area of the blast pattern by scaring them from the blast area.

An actual postponement in blasting will only occur when a protected species is located within or is approaching the Exclusion Zone at the point where the blast countdown reaches the T-minus five (5) minutes. At that time, if an animal is in or near the Exclusion Zone, the countdown will be put on hold until the Exclusion Zone is completely clear of protected species and all 30-minute sighting holds have expired.

Within 30 days after completion of all blasting events, the primary PSO shall submit a report to the USACE, who will provide it to FWC, NMFS and USFWS providing a description of the event, number and location of animals seen and what actions were taken when animals were seen. Any problems associated with the event and suggestions for improvements shall also be documented in the report.

**Negligible Impact Analysis and Determination**

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as

effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS's implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

For reasons stated previously in this document, the specified activities associated with the USACE's confined blasting activities in the East Channel of Big Bend Channel, Tampa Harbor are not likely to cause PTS, or other non-auditory injury, gastro-intestinal injury, lung injury, serious injury, or death to affected marine mammals. As a result, no take by injury, serious injury, or death is anticipated or authorized, and the potential for temporary or permanent hearing impairment is very low and would be minimized through the incorporation of the required monitoring and mitigation measures.

Approximately 244 instances of take to some smaller number of Atlantic bottlenose dolphins from the Tampa Bay Stock are anticipated to occur in the form of short-term, minor, hearing impairment (TTS) and associated behavioral disruption due to the instantaneous duration of the confined blasting activities. While some other species of marine mammals may occur in the Tampa Harbor, only common bottlenose dolphins are anticipated to be potentially impacted by the USACE's confined blasting activities.

For bottlenose dolphins within the proposed action area, there are no known designated or important feeding and/or reproductive areas in the proposed project area, which consists of a man-made channel with a history of maintenance dredging. Many animals perform vital

functions, such as feeding, resting, traveling, and socializing, on a diel cycle (*i.e.*, 24-hour cycle). Behavioral reactions to noise exposure (such as disruption of critical life functions, displacement, or avoidance of important habitat) are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.*, 2007). Consequently, a behavioral response lasting less than one day and not recurring on subsequent days is not considered particularly severe unless it could directly affect reproduction or survival (Southall *et al.*, 2007). The USACE's proposed confined blasting action at the Tampa Harbor, Big Bend Channel's East Channel includes up to two planned blasting events per day over multiple days; however, they are very short in duration and in a relatively small area surrounding the blast holes (compared to the range of the animals) located solely with the East Channel, and are only expected to potentially result in momentary exposures and reactions by marine mammals in the proposed action area, which would not be expected to accumulate in a manner that would impact reproduction or survival.

Atlantic common bottlenose dolphins are the only species of marine mammals under NMFS jurisdiction that are likely to occur in the proposed action area. They are not listed as threatened or endangered under the ESA; however the BSE stocks are considered strategic under the MMPA. To reduce impacts on these stocks (and other protected species in the proposed action area), the USACE must delay operations if animals enter designated zones, and will not conduct blasting if any dolphins (or other protected species) are located within the East Channel. Due to the nature, degree, and context of the Level B harassment anticipated and described in this notice as well as the Proposed IHA notice (see "Potential Effects on Marine Mammals and Their Habitat" section above and in 83 FR 11968, March 19, 2018)), the activity is not expected to impact rates of recruitment or survival for any affected species or stock, particularly given

NMFS's and USACE's plan to implement mitigation, monitoring, and reporting measures to minimize impacts to marine mammals. Also, the confined blasting activities are very short in duration and there are no known important areas in the USACE's proposed action area. Additionally, the proposed confined blasting activities would not adversely impact marine mammal habitat.

As mentioned previously, NMFS estimates that one species of marine mammals under its jurisdiction could be potentially affected by Level B harassment over the course of the IHA. The population estimates for the marine mammal species that may be taken by Level B harassment is estimated to be 564 individuals. To protect these marine mammals in the proposed action area, USACE are be required to cease or delay confined blasting activities if any marine mammals enters designated exclusion zone.

NMFS has determined, provided that the aforementioned mitigation and monitoring measures are implemented, that the impact of conducting the confined blasting activities in the East Channel of the Big Bend Channel in the Tampa Harbor may result, at worst, in a temporary modification in behavior and/or low-level physiological effects (Level B harassment) of common bottlenose dolphins.

While behavioral modifications, including temporarily vacating the area immediately after confined blasting operations, may be made by these species to avoid the resultant underwater acoustic disturbance, alternate areas are available within this area and the confined blasting activities will be instantaneous and sporadic in duration. Due to the nature, degree, and context of Level B harassment anticipated, the proposed activity is not expected to impact rates of annual recruitment or survival of any affected species or stock, particularly given the NMFS and applicant's plan to implement mitigation and monitoring measures that would minimize

impacts to marine mammals. Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS finds that the total marine mammal take from USACE's proposed confined blasting operations would have a negligible impact on the affected marine mammal species or stocks.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized;
- No injury is anticipated or authorized;
- Take is limited to Level B harassment, and would be expected to be mainly temporary and short-term behavioral disturbance and potential for a small number of TTS takes;
- The USACE's proposed confined blasting activities within the East Channel includes up to two planned blasting events per day over multiple days (up to a maximum of 42 blast events total), but these would be very short in duration and in a small area relative to the range of the animals; and
- While temporary short-term avoidance of the area may occur due to blasting activities, the proposed project area does not represent an area of known biological importance such that temporary avoidance would constitute an impact to the foraging, socialization, and resting activities of bottlenose dolphins.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS finds that the total marine mammal take

from the proposed activity will have a negligible impact on the affected marine mammal species or stocks.

**Small Numbers**

As noted above, only small numbers of incidental take may be authorized under Section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

As noted above, the number of instances of take proposed for authorization equates to approximately 43 percent of the estimated stock abundance if each instance represents a different individual marine mammal. However, as noted above, NMFS anticipates that the calculated number of exposures represents some repeated exposures of some individuals; in other words, the number of exposures is likely an overestimate of individuals. Urian *et al.* (2009) studied fine-scale population structure of bottlenose dolphins in Tampa Bay, and concluded that there are five discrete communities (that are not defined as separate stocks) of bottlenose dolphins in Tampa Bay. They found significant differences in location and association patterns among these communities and note that all five communities differed significantly in latitude, longitude, or both. Based on the range patterns of these discrete communities, only one of these communities, Community 5, is expected to occur in the USACE proposed project area. The other four communities range farther south of the proposed project location. In addition, Community 5 appeared to be the smallest community of the five identified communities. Therefore, we

conclude that the takes associated with the USACE proposed confined blasting actually represents no more than 20 percent of the total Tampa Bay stock of bottlenose dolphins.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

**Unmitigable Adverse Impact Analysis and Determination**

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has preliminarily determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

**Endangered Species Act (ESA)**

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq*.) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally, in this case with the NMFS Southeast Region (SERO) Protected Resources Division Office, whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is proposed for authorization or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

**Authorization**

NMFS has issued an IHA to the USACE to take one species of marine mammal incidental to confined blasting in the East Channel of the Big Bend Channel in Tampa Harbor, Tampa, Florida provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 1, 2018.

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Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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